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ABSTRACT

The possible influence of cognitive dissonance in psychotherapy was examined by conceptualizing therapy as an effort justification process. It was predicted that freely choosing to undergo a highly effortful procedure would aid in positive therapeutic change. Subjects (N=52) participated in a weight-reduction experiment in which the degree of effort expended on "therapeutic" tasks and the degree of perceived choice to discontinue the study were manipulated. High-Effort subjects lost marginally more weight. Evidence was also found for the influence of the choice variable. A follow-up revealed that the effects of effort had increased and were highly significant. (Author)

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The Role of Effort Justification in Psychotherapy

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The Role of Effort Justification in Psychotherapy

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The research I'd like to describe is an attempt to apply dissonance theory to psychotherapy. Specifically, we believe that by conceptualizing therapy as an effort justification process, some light can be shed on a possible mechanism underlying positive therapeutic change.

The effort justification hypothesis states that freely choosing to undergo an effortful or stressful activity to obtain some goal will arouse dissonance, which is then reduced by a positive attitude shift towards that goal and features associated with it. In other words, the goal is elevated in attractiveness as a way of justifying the expenditure of effort.

Now consider therapy. In any of its many forms it is almost always effortful. Psychotherapy can be conceptualized as a process whereby clients undergo much effort and stress to obtain some goal, such as a decreased phobia, more self-assurance, etc. Thus one can see how effort justification may become important. To the extent that therapy is freely entered into, what should result is an increased evaluation of the goal. Also, the therapist and the therapy itself may become more attractive since they are associated with the goal. To the extent that these factors influence therapeutic outcomes, the probability of a successful therapy is enhanced.

Cooper recently conducted two experiments that provide clear evidence of effort justification in therapy. He reasoned that if successful therapy outcomes were due to effort justification, the particular form of effort shouldn't matter, so long as that effort is seen as related to the goal question. In each study, subjects were assigned to either a standard therapy or a bogus therapy solely on the expenditure of physical effort such as jumping rope. Decision freedom to enter into and continue with the therapy was also varied. In both experiments, the first dealing with snake phobia, the second with nonassertiveness, the success of the therapy depended only on decision freedom. When it was high, both therapies were successful; when low, neither succeeded.

The present experiment was an attempt to deal with some of the important questions left unanswered by Cooper's previous studies. In the study I'm going to describe, degree of effort was varied directly as an independent variable. Also, since both of Cooper's experiments lasted for only one session, the duration of therapeutic changes was assessed over multiple sessions and a 6-month follow-up. Our focus was on weight loss, which allows for an objective, nonreactive dependent measure that can be repeatedly sampled. Weight loss also in itself thoroughly defines the criterion for a successful therapy.

Our subjects were recruited via newspaper ads for "an experiment concerning possible methods of weight reduction." To increase subject homogeneity, only females 18 and over, between 10-20% above

desirable weight standards, living relatively nearby, and not already receiving weight-related therapy or medications were chosen. 52 subjects who fulfilled these requirements comprised our final subject pool. And they were paid at the rate of $1.00 per session.

As a general overview, we manipulated degree of effort and decision freedom in a 2 x 2 between-subjects design with an external control group. Subjects attended 5 sessions over a 3-week period. They attended 2 sessions during each of the first 2 weeks and one during the final week. This final session ended in a thorough debriefing. To minimize extraneous influences on weight change, sessions for each subject were scheduled at the same time of day and the same days of the week throughout. Two experimenters, each partially blind to the subject's assigned condition, conducted the study. A female first experimenter weighed subjects and manipulated the choice variable; a male second experimenter conducted the actual sessions and manipulated the effort variable. Six months after the experimental sessions were completed, a final weighing session was held.

A cover story was given to subjects to conceal our actual hypothesis. Participants were told that psychologists had frequently found strong correlations between heightened neurophysiological arousal and increased emotional sensitivity. The present researchers, it was added, had been able to take advantage of this by presenting subjects with various tasks designed specifically to increase this neurophysiological arousal and thereby to enhance

emotional sensitivity in a way that helped lead to weight reduction. We explained that although the procedure had been very successful in the preliminary investigations, the precise reasons for the weight loss were still uncertain and that the present study was to make the process clearer.

The tasks were described as requiring much concentration and consequently as being neurophysiologically arousing and sometimes stressful. The subject was assured that this arousal and stress would be brief and not last beyond any session.

Decision freedom was manipulated at the outset and the conclusion of each of the first four sessions by offering High-choice subjects the option to discontinue the experiment. Also, they were given an Informed Consent form to sign which explicitly stated that they could withdraw their consent and discontinue their participation at any time. Low-choice subjects were not explicitly made aware of their option to discontinue,

Effort was manipulated by varying the degree of difficulty of various cognitive tasks given during the sessions. Since weight change was our dependent measure, physical exercise therapy would have been no longer bogus. All subjects first discriminated between various geometric stimuli presented through a 3-channel tachistoscope. They then moved to a delayed auditory feedback apparatus where they attempted to recite various rhymes and sayings, and to read short passages. Some examples include "Peter Piper", the U.S. "Pledge of Allegiance", and for a reading passage a short

biographical sketch of daVinci. High-effort subjects spent the entire hour-long session working at these tasks; Low-effort subjects worked about ten minutes, and the tasks were always easier. For example, figures were visible on the t-scope for 350 milliseconds for High-effort subjects vs. 3 times that length for Low-effort. Also, the auditory delay was 316 msec with high background interference for High-effort; but only half that delay and with low interference for Low-effort.

So that effort would not be confounded with session length, Low-effort subjects spent 40 minutes relaxing and browsing through magazines between completion of the tachistoscopic task and the beginning of the delayed auditory feedback.

To provide a baseline indication of normal weight fluctuation among subjects in our sample, ten subjects from those who responded to the advertisement were randomly assigned to a control condition. When contacted to begin, they were told that they would be unable to participate as originally planned due to a change in the procedure that meant using fewer individuals. They were then asked to engage in an unrelated study concerning women's normal weight fluctuation over time. Those agreeing were merely weighed 5 times over the 3-week period.

Six months after the 5th session was completed, subjects were contacted for a follow-up weighing. The subjects were unaware that they would be recontacted. 42 of the 52 subjects were able to return; 9 had since moved from the area or were unable to be reached; and one had become pregnant.

To briefly summarize a procedure that's not really as complicated as I've made it sound, what we have is a study in which we attempted to manipulate 2 levels of effort and 2 levels of choice, with weight loss as our main dependent measure.

Before examining the weight change data, it's important that I first touch on the manipulation checks. High-effort subjects perceived the sessions as being significantly more effortful ($p < .005$). However, the manipulations of decision freedom was not entirely effective. What we encountered was a ceiling effect, with 23 of 41 experimental subjects rating themselves as having the highest degree of choice to discontinue. This included 8 of 20 assigned to Low-choice. What this means in essence is that with decision freedom high in all cells the effort justification prediction is reduced to High-effort subjects losing more than Lows. If we look at ~~the first slide~~ Table 1, we see the weight change over the 5 initial sessions. The differences are not large, and indeed show only a slight tendency towards significance ($p < .14$). However, additional data should be considered: 7 of the 9 subjects who lost the most weight were from the High-effort conditions, while 5 of the 6 who gained the most were from Low-effort conditions. Also, only in the combined High-effort conditions was weight deviation significantly different from zero ($p < .02$). To better understand the role of decision freedom, an internal analysis was performed on the date by taking a median split of subjects' response to the choice manipulation check. ~~Slide 2~~ Table 1 shows the results of this split. Weight

loss was greatest in the High-effort, High-perceived choice cell. A contrast of this cell with the remaining three is marginally significant ($p < .08$). Also, only the High-effort, High-perceived choice cell shows weight deviation significantly different from zero ($p < .02$).

Encouraged by the direction, if not the size, of these results, we proceeded with the follow-up. As Table 3 indicates, High-effort subjects had lost an average of 6 1/2 additional pounds, whereas Low-effort subjects had gained slightly. The difference was highly significant, whether measured as change from the 5th session as we see here or the beginning of the experiment as shown by Table 3 (both $p < .001$). Fifteen of 16 High-effort subjects had lost weight, as opposed to only 7 of 18 Low-effort and 4 of 8 Control subjects. An internal analysis of the choice variable on these follow-up data again resulted in the High-effort, High-perceived choice group losing the most, although this group did not differ significantly from those in High-effort, Low-perceived choice. Again, this follow-up occurred 6 months after the completion of the original 5 sessions. We have just completed a second follow-up which occurred a full year after the initial sessions. Differences obtained during the first follow-up remained, and were again highly significant ($p < .01$). Change as measured from original weight was still over 6 pounds for High-effort vs. under a pound for Low-effort. Once more an internal analysis showed the High-effort, High-perceived choice group producing the

greatest loss (m = -7.53). This group was significantly different from the remaining 3 ($p < .05$).

Now, what do we make of these results? The weight loss observed in the High-effort cells was both substantial and consistent. Since subjects were an average of 17 lbs. overweight at the outset, High-effort subjects -- who lost an average of 8 1/2 lbs. over the 1st follow-up -- were able to achieve a 50% reduction in excess weight. The chief issue to be addressed then, is not whether positive therapeutic change occurred, but rather whether effort justification processes can account for this change.

The results offer clear support for the role of effort in producing the weight loss. But the weakness of the choice manipulation makes a final interpretation less clear than would be desired. Aside from the internal analysis, there is another piece of evidence relating to decision freedom. This concerns those subjects who actually reported feeling Low-choice. There were 8 such subjects and for them, effort justification would predict that, regardless of effort, weight loss would not occur. And in fact these subjects' mean weight change was consistently at or near zero throughout the experiment.

However, alternative explanations can't be dismissed. Problems with the choice manipulation leave us with an effort-outcome relationship which may not reflect effort justification at work. For example, perhaps the increased effort required leads to increased perceived legitimacy of the therapy, which in turn affects expectations and thus outcomes. While possible, this and several

other alternative explanations which we could generate all fail to explain one finding: That High-effort subjects lost weight over the follow-up regardless of whether they initially gained or lost. An expectation-based hypothesis would have trouble with why subjects initially gaining weight should later lose. Effort justification can account for this more easily, since it would be expected to increase attraction for the goal of weight loss regardless of the initial weight change. The enhanced goal should then continue to exert an influence. But this post hoc speculation should only emphasize the need for more work in the area. The specific processes producing the changes particularly need more attention. For example perhaps some self-perception, attributional alternative could account for our findings.

Finally, I'd like to emphasize what we're not saying. We're not saying that effort justification is the only influence on therapy outcomes; nor are we advocating an effort therapy. Existing therapies often rely on well-established principles, and it would be presumptuous for us to lump the complex social influence that occurs all under the rubric of effort justification. What we do believe is that effort justification influences outcomes. To the extent that therapists take advantage of this process they may enhance the efficacy of their therapies.

Table 1

Mean Weight Change Over the Initial Five Sessions (in lbs.)

Group	Unadjusted	Internal Analysis
High Effort-High Choice	- 1.75	- 2.25
High Effort-Low Choice	- 1.77	- 1.20
Low Effort-High Choice	- 1.16	- 1.33
Low Effort-Low Choice	- .45	0
Control	+ .17	-

Note. For the internal analysis, subjects were grouped according to High vs. Low assigned Effort and High vs. Low reported Choice (obtained by a median split of responses to the choice manipulation check).

Table 2

Mean Weight Change With First Follow-up (in lbs.)

Group	Over Follow-up Period	Overall	Internal Analysis: Over Follow-up Period	Internal Analysis: Overall
High Effort-High Choice	-6.46_a	-7.93_a	-7.21_a	-9.75_a
High Effort-Low Choice	-6.61_a	-9.03_a	-5.03_a	-6.61_a
Low Effort-High Choice	$-.14_b$	-1.47_b	$+1.10_b$	$-.48_b$
Low Effort-Low Choice	$+1.75_b$	$+1.33_b$	$+.44_b$	$+.44_b$
Control	$+.94_b$	$+.94_b$	-	-

Note. "Over follow-up period" indicates weight change from the conclusion of the initial sessions to the follow-up; "overall" indicates weight change from the beginning of the experiment to the follow-up. Within each column, means with different subscripts differ significantly from one another ($p<.05$ by Newman-Keuls).